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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,933	02/10/2004	Bo Hansen	58614 (71432)	2102

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EXAMINER	
ASHEN, JON BENJAMIN	
ART UNIT	**PAPER NUMBER**
1635	

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/776,933	HANSEN ET AL.	
	Examiner	Art Unit	
	Jon B. Ashen	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 September 2005*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-90* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-90* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-54, drawn to a compound consisting of 8-50 nucleotides or analogues that comprises a subsequence of at least 8 nucleotides wherein the subsequence is located within a sequence selected from the group consisting of the SEQ ID NO: listed in claims 1, 3, or 12, classifiable in class 536, subclass 24.5.

II. Claims 55-63, drawn to a method of making a medicament using a compound of claim 1 or conjugate of claim 47, classifiable in class 536, subclass 23.1.

III. Claims 64-90, drawn to a method of treatment or of modulating gene expression using the compound of claim 1, the conjugate of claim 47 or the pharmaceutical composition of claim 48, classifiable in class 514, subclass 44.

2. The inventions are distinct, each from the other because of the following reasons: The inventions of group I and group II & III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially

different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). The inventions in group I are compounds that are particular nucleotide sequences. The inventions in group II are methods of making a medicament using the particular nucleotide sequence compounds of claim 1 (or the conjugates of the sequence compounds set forth in claim 47). The inventions in group III are methods of treatment and inhibiting gene expression using the particular nucleotide sequence compounds of claim 1 (or the conjugates of the sequence compounds set forth in claim 47 and the pharmaceutical compositions thereof set forth in claim 48). In the instant case the inventions are distinct because the products as claimed, that are the sequence compounds set forth in claim 1 (which are reiterated in claim 3 and reiterated in part in claim 12), can be used in a materially different process of using that product. The products which are the inventions in group I, for example, can be used in an in vitro hybridization assay to quantify cell or tissue specific gene expression.

Furthermore, searching any of Inventions I-III together would impose a serious and undue burden. In the instant case, a prior art search of the claimed composition and of the claimed methods of making a medicament or of treatment using the claimed compositions, are not coextensive. Search of each of these inventions would require different key word searches of the composition and methods and would include, at least, a search for distinctive steps required by the methods that would not be required by the composition. These searches would need to be performed in divergent patent and non-patent literature databases. The different searches would then require

subsequent in-depth analysis of the unrelated prior art literature, placing a serious and undue burden on the Office in terms of both search and examination. As such, it would be burdensome to perform a search and examination of any of Inventions I-III together.

3. Inventions in groups II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). The inventions in group II are methods of making a medicament using the sequence compounds of claim 1 (or the conjugates of the sequence compounds set forth in claim 47). The inventions in groups III are methods of treatment and inhibiting gene expression using the sequence compounds of claim 1 (or the conjugates of the sequence compounds set forth in claim 47 and the pharmaceutical compositions thereof set forth in claim 48). In the instant case the different inventions are not disclosed as capable of use together and they have different functions. The methods of group II function to provide a medicament. The methods of group III function to provide a treatment or to inhibit the expression of a gene.

Furthermore, searching the inventions of groups II and III together would impose a serious search burden. In the instant case, prior art searches of each method are not coextensive. Search of each of these inventions would require different key word searches in divergent patent and non-patent literature databases and would require, at least, searches of distinct method steps that would be required for methods of treating, for example, that would not be required for methods of making a medicament. These

searches would then require subsequent in-depth analysis of all relevant prior art literature, placing a serious and undue burden on the Office in terms of both search and examination. As such, it would be burdensome to perform search and examination of the inventions of groups II and III together.

4. Because these inventions are distinct for the reasons given above, have acquired a separate status in the art as shown by their different classification and would require divergent searches of sequence and literature databases placing an undue administrative burden on the examiner, restriction for examination purposes as indicated is proper.

5. Groups I-III are further restricted as follows:

6. Pursuant to 35 U.S.C. 121 and 37 C.F.R. 1.141, the antisense sequences listed in claims 1, 3, 12, 17-30, 32-45 and 74 are subject to restriction. The Commissioner has partially waived the requirements of 37 C.F.R. 1.141 and will permit a reasonable number of such nucleotide sequences to be claimed in a single application. Under this policy, up to 10 of independent and distinct nucleotide sequences will be examined in a single application. (see MPEP 803.04 and 2434)

Claims 1, 3, 12, 17-30, 32-45 and 74 are subject to an additional restriction since each is not considered to be a proper genus/Markush. See MPEP 803.02 - PRACTICE RE MARKUSH-TYPE CLAIMS - If the members of the Markush group/genus are sufficiently few in number or so closely related that a search and examination of the

entire claim can be made without serious burden, the examiner must examine all the members of the Markush group in the claim on the merits, even though they are directed to independent and distinct inventions. In such a case, the examiner will not follow the procedure described below and will not require restriction. Since the decisions in In re Weber, 580 F.2d 455, 198 USPQ 328 (CCPA 1978) and In re Haas, 580 F.2d 461, 198 USPQ 334 (CCPA 1978), it is improper for the Office to refuse to examine that which applicants regard as their invention, unless the subject matter in a claim lacks unity of invention. In re Harnish, 631 F.2d 716, 206 USPQ 300 (CCPA 1980); and Ex parte Hozumi, 3 USPQ2d 1059 (Bd. Pat. App. & Int. 1984). Broadly, unity of invention exists where compounds included within a Markush group (1) share a common utility, and (2) share a substantial structural feature disclosed as being essential to that utility.

Claims 1, 3, 12, 17-30, 32-45 and 74 specifically claim or require antisense sequences (SEQ ID NOs:) as listed, which are targeted to and modulate the expression of a target gene (a THX gene). Although the antisense sequences claimed each target and modulate expression of a THX gene, the instant antisense sequences are considered to be unrelated, since each antisense sequence claimed is structurally and functionally independent and distinct for the following reasons: each antisense sequence has a unique nucleotide sequence, each antisense sequence targets a different and specific region of a THX nucleic acid, and absent evidence to the contrary, each antisense, upon binding to a THX nucleic acid, is expected to functionally modulate (increase or decrease) the expression of that THX gene to varying degrees. As such the Markush/genus of antisense sequences in claims 1, 3, 12 and 74 are not

considered to constitute a proper Markush/genus, and are therefore subject to restriction.

The antisense sequences listed in claims 20-30 and 35-45, which are part of group I, are included in this restriction because they are each structurally and functionally independent and distinct for the reasons given above with regards to the Markush groupings of sequences listed in claims 1, 3, 12 and 74. It is noted here that each SEQ ID NO: that is listed in claims 20-30 or 35-45 is identical to one of the SEQ ID NO: as listed in claims 1, 3, 12 or 74; e.g., each of SEQ ID NOs: 5-15 is identical the SEQ ID NO: as listed in claims 20-30 and as listed/repeated in claims 35-45. SEQ ID NOs: 2-4 as listed in claims 17-19 and 32-34 are each structurally and functionally independent and distinct for the reasons given above with regards to the Markush groupings of sequences listed in claims 1, 3, 12 and 74.

Furthermore, a search of more than one (1) of the antisense sequences claimed in claims 1, 3, 12, 17-30, 32-45 and 74 presents an undue burden on the Patent and Trademark Office due to the complex nature of the search and corresponding examination of more than one (1) of the claimed antisense sequences. MPEP 808.02 states in part: Where the related inventions as claimed are shown to be distinct under the criteria of MPEP 806.05(C) - 806.05(i), the examiner, in order to establish reasons for insisting upon restriction, must shown by appropriate explanation one of the following:

(C) A different field of search: Where it is necessary to search for one of the distinct subjects in places where no pertinent art to the other subject exists, a different field of search is shown, even though the two are classified together.

It is noted that a search of the available sequence databases produces a listing of references disclosing the sequence most similar to the query sequence. This is the "place" where the examiner searches for prior art. The prior art relating to another query sequence will not be found in this "place"- a different listing of references must be generated and searched by the examiner. Thus a different search is shown, and restriction is proper.

In view of the foregoing, one (1) antisense sequence is considered to be a reasonable number of sequences for examination. Accordingly, applicant is required to elect one (1) sequence of the invention from claims 1, 3, 12, 17-30, 32-45 and 74 that will be examined along with the elected Group. Note that this is not a species election.

7. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance,

whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai, In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996).

Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.**

Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon B. Ashen whose telephone number is 571-272-2913. The examiner can normally be reached on 7:30 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor, Andrew Wang can be reached on 571-272-0811. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

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Jba

Jane Zara
TC1600